THE JOURNAL
of The
Kansas Medical Society

Vol. XIX TOPEKA, KANSAS, FEBRUARY, 1919 No. 2

The Relation of Focal Infection and Protein Poisoning to the Upper Respiratory Tract.

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Read at the Annual Meeting of the Kansas Medical Society held at Kansas City, Kansas, May 1, 2 and 3, 1918.

The above subject in its various aspects is too vast to be considered in the brief time alloted to this paper. The handling of such a subject in a comprehensive manner should be the result of the combined efforts of a physiologist, a pathologist, a chemist, a neurologist, an internist and a rhinologist. To this end I have sought to avail myself of the most helpful information obtainable and have endeavored to give due credit for the same.

Many of the nasal disturbances have long been a bewilderment to the rhinologist on account of our ignorance of the anatomical, physiological and pathological conditions concerned in their productions.

In order to understand how protein toxins affect the upper respiratory apparatus, a knowledge of the nerve mechanism involved is essential.

According to Fetterolf the vegetative system of nerves supplies all glands that have ducts and all involuntary muscle tissue, and is divided into two distinct parts —the autonomic and the sympathetic. The place of origin of the vegetative fibers is in the brain and spinal cord. The fibers which comprise the autonomic portion, with which we are most concerned, are contained in the third, seventh, ninth, tenth and eleventh cranial nerves.

The autonomic fibers of the seventh nerve with those from the ninth, tenth and eleventh go to various ganglia and finally innervate the blood vessels of the mucous membrane of the mouth, throat, nose, paranasal sinuses and salivary glands. In action the two groups, the automatic and the sympathetic, are antagnostic, hence it is said that "upon the maintenance of a proper balance between the two depends the normal functionating of the structure to which they go." If the autonomic supply receives a stimulation the result will be overfunctionation in one direction, that is, vagatonia or hypertonus of the above mentioned group of nerves. If the sympathetic is in a state of hypertonus, the excessive action will be in the other direction.

In vagatonia, then, we have hypersecretion and spasm, while in hypertonus of the sympathetic supply we have a hyposecretion and relaxation. The extreme symptoms of vagatonia in general are those expressed in anaphylactic shock. The nerve cells of the two groups—vasodilator and vasoconstrictor—may be excited or inhibited by nerve impulses transmitted from the nasal chambers by the nasal and other branches of the trigeminal nerve and from the skin by the cutaneous nerves, or by impulses descending from the cerebrum in consequence of psychic states of an emotional character.

It is evident from clinical phenomena, supported by pathological conditions, that the tonus of one or more of these centers may be abnormally increased or decreased by changes in their nutrition caused by toxic products of metabolism. It is the conclusion of all who have made investi-

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gation that the toxic element is a protein substance.

There are certain fundamental principles of protein poison manifestations generally recognized:

First—That all food stuffs contain a protein poison that can be extracted and isolated.

Second—By long continued excess of protein intake, especially of a limited variety, the apparatus of metabolism becomes impaired so that it cannot handle the protein physiologically without undue reaction from the poisonous elements it contains.

Third—Through the inability to properly metabolize proteins, abnormal reaction may be produced in tissues or organs of the body. Such reactions are protein poison manifestations.

A protein poisoning may be the result of focal infection. By autolysis of the dead micro-organisms of the focus the bacterial proteins are set free and thus gain entrance to the blood stream parenterally when the same abnormal reactions are produced as those by the food proteins.

Vaughn says: "Just as the protein in the body of the bacillus is the poisonous element and the cause of abnormal reaction in infectious disease, so the protein poison in food stuff is the true basis of disease not due to infection."

When a foreign protein gains entrance to the body, enterally or parenterally, the animal body always responds to the introduction of the foreign protein by the production of specific antibodies after a certain period of time. According to Cooke, the specific antibody exists either attached to certain cells or free. When union takes place between protein and free antibody there is no clinical evidence of a reaction, but when union takes place between protein and fixed antibody a reaction takes place. When there is a large excess of antibody circulating free we have an immune state, and when there is little antibody and that for the most part attached, we have the sensitized state.

This may be an explanation of the reason why in one instance an individual may have the typical phenomena of anaphylactic shock, and at another time or in another individual it may be a manifestation of some form of the so-called "nasal neuroses," or it may be a bronchial asthma, some dermatological lesion, gastro-intestinal symptoms, cardiovascular disturbance or some other morbid condition.

The clinical phenomena of protein poisoning, so far as they relate to the upper respiratory apparatus, are all the symptoms of an inflammatory process except the local reactions that are produced by pathogenic bacteria.

This is best illustrated by the symptoms of pollenosis. When the protein substance contained in the pollen gains entrance to the body and forms a union with the fixed antibody, nerve impulses are discharged which are transmitted by the afferent nerve mechanism, found in the branches of the trigeminal nerve, to the sensory nerve cells of the cerebral cortex. These impulses are discharged by the central cells and are transmitted by the autonomic nerve supply which in turn discharge impulses that are distributed in a spray-like manner to the glands and muscular walls of the arterioles. It contains both secretomotor and vasodilator fibers. As a result there is a dilatation of the capillaries supplying the large number of thin-walled blood sinuses found in the delicate submucous connective tissue which compose the erectile tissue of the turbinated bodies. At the same time there is a hypersecretion of the numerous mucous glands, the ducts of which open at various points on the mucous surfaces. As a consequence there is an engorgement of the blood sinuses causing a blocking up of the nasal passages, more or less, with an attendant hypersecretion of mucous and serous fluid. These are the clinical phenomena of an exaggerated type of protein poisoning affecting the nasal apparatus. In other words, it manifests the symptoms of an inflammatory process minus the local morbid anatomy produced by the pathogenic bacteria and the resultant constitutional

disturbances which may vary according to the virulency of the micro-organisms.

The vascular and glandular supply about the pharynx may exhibit the manifestations of a protein poisoning, in which case there is hypersecretion just as in pollenosis affecting the intranasal structures. Inspection reveals nothing but an engorgement of the venous supply over the base of the tongue and the lateral walls of the pharynx, and a flooding of mucous and serous secretions.

A patient, male, aged 58, otherwise in good health, presented himself suffering from symptoms as above described. So excessive were the secretions that rest was impossible during day and night. On making inquiry as to his diet it was found that for a long time he had been subsisting largely upon potatoes. A change in his diet brought immediate relief. I have had him under observation for about five years and during this time he has made many attempts to return to a potato diet, but always with a return of the symptoms which disappear again with a change of diet. This is a type of food protein sensitization as it affects the pharynx.

On account of the richness of the blood and glandular supply and the complex nerve mechanism, the turbinal tissues of the nose are probably the most responsive to protein toxin effects of any tissues in the human body. More reliable, however, as an index of this condition, is the inferior turbinal, as it is seldom the site of a chronic focal infection. This structure therefore furnishes a most interesting and valuable field for the study and investigation of the clinical effects of protein poisoning, regardless of the source of entrance. It makes no difference whether it is a food or bacterial protein the reaction is the same, varying in degree according to the intensity of sensitization, the amount of the foreign protein and the rapidity of its introduction. A certain degree of tolerance may be established. This may be observed in a patient suffering from multiple foci of infection when some have been removed. For example: A patient may be suffering from an infected gall bladder and diseased tonsils at the same time when the nasal tissues will show a turgescence. A removal of either focus and the nasal tissues will usually return to the normal for a certain period of time, but unless the other focus is removed they will again return to the former turgescent state. A removal of the second focus and the nasal index will again become negative and remain so if there are no other portals through which a foreign protein is gaining entrance.

It is frequently the case that both the teeth and the tonsils are the sources of chronic infection. Should such a patient be suffering from toxic symptoms, rheumatic in character, and without any secondary anatomical lesions, the removal of either source of infection will usually afford immunity from the symptoms for an indefinite time, depending much upon hygienic and climatic conditions. If the tonsils are removed first the nasal index will usually become negative and remain so during the period of tolerance unless the dental infection is extensive. Should the dental infection be removed first, the nasal index will likely remain positive for the reason that toxic material gains entrance to the body more rapidly through the tonsils than from infected teeth.

A chronic focal infection in any part of the body may register its effect upon the sensitive nasal tissues. Without any other therapeutic measure I have seen the nasal index change from positive to negative by the drainage of an infected gall bladder, the removal of a diseased appendix, the correction of the paranasal sinus disease, the relief of gastrointestinal and genitourinary disturbances as well as the removal of infected tonsils and teeth.

The intranasal symptoms of protein poisoning, usually described as simple chronic rhinitis, chronic rhinitis, turgescent rhinitis, etc., are not the part of a local inflammatory process but merely the reflections of a protein poisoning.

A focal infection that is confined seems to produce the highest degree of sensitiza-

tion. On this account the tonsils, teeth and ethmoid labyrinth are the sources from which a bacterial protein sensitization may frequently occur. In one instance it may be buried tonsils, while in another the lacuna may be sealed up from inflammatory action or by the plica. However, the most serious consequences result from an incomplete enucleation. The smallest portion left is more dangerous than a large amount, as it is more easily covered over with cicatricial tissue. In teeth involvement it is not the open alveolar abscess but the infected root canal or pulp, of which the patient may have no warning, that produces the most pronounced sensitization.

The ethmoid labyrinth, on account of its delicate and intricate anatomical structure, may easily become a focal center of infection and the cause of sensitization. Bronchial asthma has long been associated with ethmoid disease. Long before there was any knowledge of focal infection and sensitization it was known that the removal of polypi afforded some relief. The hope of a complete and permanent cure finally led to the total exenteration of the ethmoid labyrinth with the following results:

When the ethmoid is the only source of sensitization, a cure is effected. If there are multiple sensitizations and the ethmoid is one, either an amelioration of the symptoms or a complete temporary cessation is the result. On account of the tolerance established, the patient may remain without symptoms for months or years, until from lowered resistance or from some other cause there is an increase in the amount of systemic protein intake, then tolerance ceases and asthmatic symptoms return.

According to Cooke, more than 50 per cent of his cases that were sensitized at all showed multiple sensitization. Duke, in his work on "Oral Sepsis in its Relationship to Systemic Disease," states: In the examination of one thousand medical cases on account of miscellaneous systemic complaints, 72 per cent of those having a considerable degree of oral sepsis had other chronic infections. In but 18 per cent was oral sepsis the only active infection found.

As previously stated it is the confined focal infection that seems to bear the greatest relation to sensitization, but it seems reasonable to presume that when sensitization to a foreign protein has been established and then reduced to a state of tolerance, many of the miscellaneous infections, both acute and chronic, could be the means of re-establishing the sensitized state. Clinical observations seem to warrant the assumption. That food protein poisoning can produce a sensitized state in some degree seems now to be well established, but that it can be an integral factor in the production of bronchial asthma is not universally supported. But that it does act in conjunction with a sensitized state due to bacterial protein poisoning and that it may be the means of changing a tolerant to an intolerant state, is well supported by clinical observations.

From an analysis of the above it is not difficult to reason why intranasal surgery has not done more for the cure of bronchial asthma.

SUMMARY.

(1) The tissues of the inferior turbinate furnish a most valuable index for study of the clinical symptoms of protein poisoning.

(2) The so-called "simple chronic or turgescent rhinitis" is not an inflammatory process, but the manifestation of a protein poisoning.

(3) A focal infection producing sensitization rarely gives a history of acute local reaction.

(4) Chronic focal infections with recurrent acute local reactions do not of themselves produce symptoms of the sensitized type, but the more direct toxic effect.

(5) Many infections, miscellaneous in character, both acute and chronic, may be the means of bringing about resensitization when tolerance to a sensitizing focus has been established.

(6) Extravagant claims for the cure of

bronchial asthma, by intranasal surgery alone, are unsupported by scientific investigation and careful clinical observation.

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Annual Registration in Medicine.

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We are living in a recording age. The state and nation, the church and lodge, manufacturers, merchants and scores of other individuals and organizations are continually putting us on innumerable lists. In a hundred ways we are "marked" men. The slang phrase, "get his number," tells the whole story simply and well. We are all registered, labeled and numbered on the slightest pretext and for the most trivial reasons. Somebody is always "getting someone's number." Its the phobia of the day.

To be sure, modern life is extremely complex and the extent to which the world's labor is subdivided has become so great that a considerable amount of registering is necessary. There is no objection to a certain amount of it, but where shall the process stop? Granting that a little is good and necessary, does it follow that still more is desirable and beneficial? Sooner or later this question must be definitely settled and its determination so far as Medicine is concerned is at the present time before us.

It is now proposed to register physicians annually. So far, at least, medicine has escaped this ordeal of efficiency. A single registration with a state board, after taking proper examinations, together with subsequent registration with the clerk in the county where practice is to be established, has been considered sufficient. Arguments are now being advanced, however, that life registration is inadequate. We are told that under the old system the whereabouts of physicians cannot be ascertained accurately. No central authority knows where they are, or what they are doing. Quacks and fakers of all sorts infest the profession and practice without licenses because annual lists are not available. Men who have no right to practice obtain licenses of dead men and use them as though they were their own. Annual registration, together with an annual fee insignificant in amount, is all that is necessary to "clean house" and preserve order ever after.

Examined superficially these arguments look plausible, inviting and convincing. Who would not for $1.50 or $2.00 a year have a clean profession and, incidentally, serve the public by eliminating the unfit? It is worth twice the amount of money. Furthermore, we need no longer concern ourselves with the matter of reform. The job will be definitely assigned to others, the contract let and we may proceed to forget all about it. The governor of the state, or possibly civil service machinery, will select the men needed. All for the small sum of your name and address once a year plus, say, a financial consideration of two dollars—probably not one-twentieth of what you annually pay for lodge dues.

Many physicians will undoubtedly decide in favor of adopting such a plan on the general proposition that it looks reasonable, is certainly cheap and worth while trying. Others will have in mind some misuse of the medical practice act in their own community and welcome the plan as a good and easy means of putting the pincers on particular offenders. Still others will argue that the public needs protection

from charlatans and quacks and they are willing to pay someone to have this done. The method proposed seems a very happy and efficient one and should, therefore, be tried.

A score of plausible arguments in favor of a plan of this sort may, indeed, be deduced, all of which seem eminently reasonable so long as attention is fixed on but one side of the question. These arguments, however, assume entirely different proportions when viewed from standpoints even more vital to the profession and to the state. While undoubtedly a state board, armed with the considerable budget which even small fees will bring in, would be able to do some good, both to the profession and to the public at large, the price physicians would have to pay for these reforms along lines far more significant and important to them would be tremendous. Better ways might easily be found to accomplish the same ends without compromising the whole professional status of Medicine, as annual registration inevitably will do.

There are many reasons why annual registration and collection of fees will compromise the professional status of Medicine. We must not forget that in order to make collection practicable a penalty will have to be imposed for non-payment of fees. This penalty may, for example, take the form now enforced by the Illinois Department of Registration and Education in the Care of Registered Pharmacists:

*"If you are actively engaged in the practice of your profession, the fee is $1.50 if paid between January 1 and March 1, 1919; if paid between March 1 and April 1, 1919, it is $3.00; and if paid between April 1 and May 1, 1919, it is $5.00. *If it is not paid before May 1, 1919, your certificate will become null and void and the only way you can become reinstated as a registered pharmacist is by filing a formal application and passing an examination.*"

Can the profession afford to put such a powerful lever into the hands of any board or body of men?

Will not the inevitable tendency be to inaugurate a "year at a time" type of professionalism, stripped of all continuity, and incidentally of the respect that comes with permanence of title? No profession can exist under such precarious conditions. Good standing in medicine must ever consist in doing honest work and in giving genuine professional service, not in keeping paid up with a state board. Fitness, years of service, professional prestige, count for nothing, once a plan of annual registration and fee collecting is inaugurated. It all becomes a matter of bookkeeping. If you lapse in your dues, your professional status ceases. No possible reforms could be great enough to offset the damage resulting from such a move.

A young man spends seven years to become a physician. He passes the state board examinations and is admitted to practice. The license then given him indicates a contractual relationship on the part of the state permitting him to practice his calling during good behavior or for a lifetime. Can there be any possible reason why his refusal to enroll and to pay a fee annually, even granting that the registration and fee will be beneficial to the profession and the people, should operate as a penalty so severe as a revocation of a license? From the point of view of the profession, the sentiment and just pride which its members now take in belonging to the calling will be gradually lost and supplanted by a purely business motive; from the point of view of the individual, the thing that he has justly earned by many years of hard work will be all too easily taken from him. No possible advantages to be gained would equal those lost.

The argument that charlatans and quacks infest the profession and prey on the public, particularly in our large cities, is undoubtedly only too true. But annual registration and annual fees are no panacea for such evils and, even granting that they were, it seems doubtful whether

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some other course should not be adopted in dealing with this problem. States—at least American states—do not make laws penalizing or even inconveniencing respectable and law-abiding men in order to apprehend those that violate their statutes. The police, even in our large cities, never think of registering honest people in order to catch thieves. It would be far handier for them to have a list of all citizens—a registration bureau where they could be checked up and their whereabouts ascertained every so often. Crime could undoubtedly be reduced, but the price would be a type of bureaucracy which independent people will not tolerate. If annual registration and fee collection is *enforced* in Medicine, a condition precisely similar will obtain. The plan is undemocratic and unnecessary. The evils which it promises to cure should be and can be met in other ways more in harmony with American ways of doing things.

In arguing against annual registration and fee collection there is no desire to minimize the evils which exist or to infer that something should not be done to correct them. There should be concerted effort on the part of physicians to obtain from the state legislatures appropriations sufficient to maintain proper inspection of licenses and enforcement of all laws pertaining to the practice of medicine. This may, as has been suggested, best be done by men outside of the profession. To compel the members of a profession to pay annual dues for the enforcement of laws which the state has made in the interests of the people is decidedly unfair. Most physicians could easily be induced to let the state board know where they are, annually or semi-annually, if it were really necessary. But to adopt a plan which would force such action at the price of possible professional disfranchisement would mean the giving over of the very life of the profession to an outside agency whose benevolence alone would determine its future growth and successful development.

*Annual letter sent out to registered pharmacists for renewal of certificates.

"Quinine Q.S."

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The purpose of presenting for your consideration the subject of quinine as a therapeutic agent is prompted by the fact that perhaps no single drug is more universally used than this. It is self-prescribed, counter prescribed, prescribed by the physicians as well as by the friends of all classes of people for all classes of ailments. The position taken by the writer is that the therapeutic virtues for the various number of ailments that are ascribed to quinine are absolutely unfounded; that nothing in the physiologic action of this drug aside from its specific effect upon the malarial parasite and certain uterine troubles is warranted by our present knowledge of its therapeutic action. And on the contrary that the harmful effects of quinine are perhaps as little understood by the average practicing physician as by the laity. A brief resume of the history of this drug so far as we may go is of historical interest only. It is commonly known that it receives its name in honor of the Countess of Cinchon, who was cured of tertian malarial fever by its use in the seventeenth century; that because of religious bigotry it was suppressed from general distribution for nearly fifty years, and was finally introduced about the middle of the seventeenth century by the Jesuits of Rome, who approved of the distribution of a certain amount of this bark applied to those afflicted with malarial disease in the great Roman Campania. It is also of interest to note that its introduction to England was through the agency of a quack.

The first crude discovery of the active principles of cinchona were established by Duncan in 1703, but were not perfected by Pelletier and Caventon until 1820. In support of the contention raised, attention is called to a consideration of the physiological action of this drug. Externally and locally it is an antiseptic preventing the growth of infusoria and arresting putrefactive fermentation. Upon the

abraded skin surface it is a decided irritant, also upon the mucous membranes. Internally in full physiologic doses its action upon the gastric mucosa exhibits the same intensely irritating quality. In minimum doses it acts as the simple vegetable bitters, augmenting both salivary and gastric secretion, the latter in the form of hydrochloric acid, which is increased under its use.

Upon the circulatory system minimum doses increases the force and frequency of the heart's action, while excessive doses slow and weaken, a condition that is so frequently overlooked that the marked intermittency of the pulse in children to whom quinine is administered is often looked upon in alarm by the attendant, and increased instead of decreased doses of the drug given.

Its action upon the blood is distinctly hemolytic. It not only causes disintegration with destruction of hemoglobin in the red cells, but it arrests the amœboid movement of the polymorphonuclear leukocytes, inhibiting their migration through the capillary walls and likewise diminishing their numbers, resulting in leukopenia. It retards and impairs all the oxidizing power of the body and materially lessens the oxygen-carrying capacity of the red corpuscles. Bodily metabolism is impaired.

It is said with reference to its action upon the nervous system that small doses stimulate the cerebrum. This statement is emphatically denied by modern writers. Large doses occasion cerebral congestion with sensations of dizziness, fullness in the head, tinnitus and other symptoms classified and described at length under the title of Cinchonism. The reflex function of the spinal cord is reduced and by toxic doses ultimately abolished, primarily due to overstimulation of Setschenow's inhibitory center and latterly due to direct depression of the spinal cord and nerves.

Upon the respiratory system it is recognized as having but very slight effect, minimum doses being said to stimulate respiration, while the ordinary therapeutic dose depresses and diminishes the respiratory movements both in number and amplitude, and in toxic cases death almost invariably results from respiratory paralysis. The excretion of uric acid, urea and other nitrogenous material is considerably diminished under its use. Its effect upon the temperature in health is nil. In febrile conditions, aside from those of malarial and puerperal origin, its effect is questionable, and it cannot be classified as a true antipyretic, as it has not at any time been shown that it exerts any influence upon the heat-controlling centers.

Its effect upon the eye is infrequently that of transient amblyopia or amaurosis, and the occurrence of these as chronicled in medical literature are by no means infrequent, permanent blindness resulting from the over-administration of quinine in practically the same degree of frequency as from the administration of wood alcohol.

Referring to the gradual disuse of quinine as a therapeutic agent we have but to refer to the standard therapeutics of twenty years ago in comparison with those of today. Fowler in his Practical Therapeutics, Volume 2, 1896, gives the following cases in which quinine is said to be used with highly beneficial results: In obstetrical and gynecological cases as an abortifacient, emmenagog, uterine stimulant, as a specific for malaria, as an antipyretic, analgesic and antiseptic in typhoid and typhus fevers, as almost a specific in acute articular rheumatism, as of particular value in puerperal fever, as a splendid remedy in small pox and scarlet fever, to be used both internally and locally in diphtheria, as the principle remedy in cholera, as regarded by many a specific in pneumonia, as antipyretic in tonsilitis, as a prophylactic, pertussis, as of value in the hectic fever of phthisis, as a valuable agent in chronic phthisis, chronic bronchitis, asthma, coryza, hay fever, influenza, insolation, headache, migraine, leukæmia, diabetes, pityriasis, urethral fever, gonorrhea, cystitis, growths at the neck of the bladder, amœbic dysentery, locomotor ataxia, Meniere's disease, sciatica, hydrops

articulorum, hematuria, stomatitis, empyema, pruritus, glaucoma, Neisserian ophthalmia, chorea, nocturnal enuresis, making forty-five diseases in which the administration of quinine is especially recommended.

In the review of Butler's text on Therapeutics, accepted as a current text book and published in 1904, we find the scope of diseases narrowed to sixteen. These comprise malaria, hay fever, ozena, whooping cough, neuralgia, headache, jaundice, asthma, diarrhea, dysentery, septicemia, puerperal fever, endocarditis and pleurisy, showing a diminution of two-thirds in the therapeutic applicability of this drug within a period of ten years. Since 1904 the therapeutic scope of quinine has gradually decreased. A more thorough understanding of its physiologic action, of its various abuses, of the danger of its administration, of the questionable therapeutic results obtained from it in a majority of cases, of its possible injurious effects upon the reflex nervous system, its heart-depressive action, its tendency to produce cerebral engorgement and frequent untoward clinical manifestations in the form of various degrees of cinchonism and the by no means infrequent occurrence of permanent blindness and deafness as a result of its use have tended to curtail in a great measure its employment by the modern physician in the broadcast and indiscriminate manner of his predecessors.

For over 200 years quinine has been administered by the profession more frequently without the hope or expectation of obtaining therapeutic results than because in the mind of the profession it exhibited nothing harmful in its administration aside from certain unpleasant symptoms that in themselves were deemed of psychic value to the patient. Very few drugs receive more scant attention so far as their physiological effect is concerned than this.

The spirit of empiricism, like Banquo's ghost, will not down in the medical profession, but rears its head again and again when we are least expecting it, seductively beckoning us to follow in the footsteps of our predecessors. For instance the following quotation derived from Basil in 1704 will give some idea of the conceptions of the therapeutic virtues of quinine at that time, which are held even at the present day by many practitioners. He says: "On account of its bitter taste, it is also known as 'earth gall.' Supreme virtues exist in it when used in liver, spleen and joint diseases, jaundice and dropsy; for which purposes a powder, made from it, is mixed with anise-seeds and drunk in beer and wine. It induces the menstrual flow and restores a lost appetite. It rids the body admirably of pin worms, if an infusion of it is spread on a cloth and applied over the abdomen. It is a specific for rheumatism and typhoid fever.

"Its administration in cases of epilepsy produces an increase in the number of epileptic seizures due to its effect on cerebral engorgement. The coagulability of blood is diminished, resulting in the so-called paralysis of leukocytes. The fall of blood pressure after the administration of quinine is due unquestionably to its heart depressant action, and as an antipyretic its administration is attended by all the dangers without exhibiting the positive virtues of the coal tar products."

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Unsuccessful Attempts to Transmit Influenza Experimentally.

Two extensive attempts have been made under the auspices of the U. S. Public Health Service and the U. S. Navy to transmit influenza experimentally. Inoculations were made of pure cultures of the influenza bacillus, of secretions of the upper air passages in the early stages of influenza, and of blood from typical cases of influenza, and other methods of transmitting the disease were tried. In no case was influenza developed. (Jour. A.M.A., Jan. 25, 1919, p. 281.)

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To arouse a spirit of antagonism in a Kansas legislature is has usually only been necessary to mention the subject of medical legislation. Members of the legislature are not unfriendly to the physicians, individually or as a class, and it is not perfectly clear why our efforts to secure favorable legislation should be so lightly regarded by the legislative body.

The medical profession has very rarely asked for legislation for its own benefit. It has expended money, time and energy in fruitless efforts to secure legislation that would protect the people against incompetent practitioners—legislation which was primarily and secondarily for the benefit of the people. We say these were fruitless efforts, for it was not until the people demanded that some regulations for the practice of medicine be made that the medical practice act was passed. Since that time our efforts to improve and perfect this law has been just as fruitless as before, for although we have succeeded in amending the medical practice act, its purposes have been practically nullified by the passage of other practice acts which provide for the licensing of various kinds of substitutes for doctors.

The people do not yet realize that these are evasions of the laws which they demanded for their own protection, and that men and women are licensed to practice medicine who know very little of the human body and practically nothing of its diseases. Until they do realize this fact there is little hope for efficient regulation of the practice of medicine. However, it is our duty to keep trying and to point out to each succeeding legislature the needs for higher standards of qualification in those who attempt to treat the sick.

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In the Surgical Clinics of Chicago (December) Bernstein has a very interesting clinical report on Infections of Hand and Fingers, from which we quote the following very valuable suggestions for the treatment of these cases: "Every opening must be made large enough. A drain must be inserted and then hot dressings applied. What happens when no drain is inserted and dry dressings applied? The edges of the wound become edematous and exude a serum which coagulates and seals up the opening. This is why hot dressings should be applied. It keeps the coagulum in solution and does not permit sealing. An important point to which I wish to call your attention is the flow of serum from the wound. Wright maintains that as long as serum is permitted to exude from an infected wound the condition is favorable. The serum bathes the wound and brings the lymph to the surface.

When its excretion is interfered with or is permitted to coagulate upon the surface of the wound, the infection takes a centripetal course. That is what is meant by the term "lymph-bound."

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In the Army number of Medical Clinics of North America (September) some very interesting reports from medical officers in the various camps indicate how carefully the laboratory investigations have been made and how valuable the data so obtained will be in the practice of medicine. The report of Major Cecil on the pneumonias at Camp Upton shows that of 382 cases of pneumonia in which bacterio-

logic examinations were made, 161 were of pneumococcus origin and 182 were of streptococcus origin. Of the 182 streptococcus pneumonias, 118 proved to be due to the hemolytic streptococcus.

Now that the great war is over, a spirit of criticism is rampant. If any department of the government in any way connected with war activities has escaped the searching eye of the critic, it is only for the time being.

Little officers are calling the bigger ones to account and these are accusing the higher-ups of inefficiency. Even in civil life, men in official positions are being boldly called to explain their delinquencies and to account for their failures. Is it a favorable sign? Does it indicate that the people are very strongly impressed with the need for efficiency? Or, perhaps, is it the reaction from a considerable period of restraint?

The medical bill prepared by the commission which was appointed by Governor Hodges, has again been introduced for consideration by the present legislature. This bill provides for the appointment of a board of examiners which shall first examine the credentials of every applicant for a license to practice before he may appear for examination by either of the other boards of examiners.

Dr. S. S. Myers, formerly of Scott City, has removed to Greely, Colorado, where he expects to limit his practice to the eye, ear, nose and throat.

Dr. A. Haggart, formerly of Ottawa, has recently located at Elgin, where he expects to do a general practice.

OBITUARY.

Dr. John D. Freeman

Dr. John D. Freeman died at Stormont Hospital, Topeka, January 27, from pneumonia. He was born in 1871 at Geneva, Illinois. He was a graduate of the University of Wisconsin and received his medical degree from Rush Medical College in 1897.

Dr. Freeman came to Topeka in 1899 as Chief Surgeon of the Santa Fe Hospital here and held that position at the time of his death. He was recognized as one of the leading surgeons of the state. He was a member of the Shawnee County Society.

Dr. F. T. Allen

Dr. Frank Trimper Allen, aged 69, died at his home in Neodesha, January 2. He was born in 1849 at Hillsboro, Illinois, and received his literary education there. He received his degree in medicine from the medical department of Northwestern University in 1873. He practiced in Bond County, Ill., until 1879 when he located in Kansas and at Neodesha. Dr. Allen has been recognized as a physician and surgeon of large experience and unusual ability. He leaves a wife and one daughter, Mrs. Dr. J. L. Moorhead. He was a member of the Wilson County Society.

Dr. S. G. Stewart.

Dr. Samuel G. Stewart, 74 years of age, died at St. Cloud, Florida, on Friday, February 7. Dr. Stewart has been one of the leading physicians in Topeka for the past thirty years. He was born in Oxford, Ohio, October 1, 1845. He received his degree in medicine from Starling Medical College in 1873.

Dr. Stewart was Professor of the Principles and Practice of Medicine and Clinical Medicine in the Kansas Medical College from its foundation until its merger with the University. He was a member of the American Medical Association and of the Shawnee County Medical Society.

For some years past it has been his custom to spend the winter in Florida and it was there that his fatal illness occurred.

Excerpts—By The Prodigal.

It is claimed that the most accurate investigators of the human mind have been the poets, particularly Homer and

Shakespeare. This accounts for the permanent hold these authors have on the cultured.

For soft spongy gums, massage them thoroughly with the finger and press down on them after each meal, after which cleanse with warm water and a soft brush.

There is no authentic case on record of hair turning white over night from fright, grief or suffering.

When the system is saturated with iodide of potassium, do not put yellow oxide of mercury in the eye. It will be worse than war.

A doctor to be a real doctor must see with the brain as well as with the eye.

More than 1,000,000 enlisted soldiers, during the Civil War, were under eighteen years of age, and 850,000 were from fifteen to sixteen years old. They made good soldiers. Our boys of the present have not forgotten the knack.

In the present war it has cost about $25,000 to kill a soldier. About 72 per cent of the wounded were able to return to the firing line.

SPHAGUM MOSS.—"A surgical dressing. The Germans are not alone in using it. Sphagum moss is used by all the armies. Special machinery has been devised to prepare it for use. It is first washed and freed from all foreign substances and then is wrung out and sent to the drying room. After being thoroughly dried it is weighed and compressed in powerful hydraulic presses. It is being widely used now, giving much better results than cotton wool. Its healing powers were discovered quite by accident. A worker met with a serious injury in a peat moss litter works, and no appliances being handy, his fellows laid moss litter on the wound and bandaged it up. When the man reached a hospital the doctors were horrified at the dirty looking litter, and declared that the limb would have to be amputated. They found, however, that far from poisoning the wound, as they had feared, the wound had been actually cleaned by the rude emergency dressing. Thus was discovered sphagum moss, from the surgeon's point of view.—Review of Reviews.

PLURIGLANDULAR THERAPY.—The Prodigal has been looking over a brochure with the above title. It says: "Pluriglandular disorder is much more frequent than disorders involving a single gland of internal secretion; hence the reinforcement of an indicated organotherapeutic extract with one or more synergists many times radically alters the results for the better. Indeed may make the difference between success and failure."

Mono, or uniglandular, sero-therapy appears to be established. Poly, or pluriglandular, therapy is asking for recognition at the therapeutic table. The Prodigal has no voice in the refereeing, but it reminds him of his teaching the virtue of belladonna and a combination with its synergists, hyoscyamus, stramonium, etc. But later he convinced himself that monotherapy got better results.

While visiting in Chinatown, San Francisco, he was in a Chinese drug store where the therapeutic agents on display were dried spiders, tarantulas, bugs of various kinds, lizards, snakes, shells, etc. A Chinaman came in and made a chattering noise and the druggist took some dried bugs, pulverized them in a mortar, did the powdered bugs up in a few papers, mumbled something evidently giving instruction how to take the bug dust, and the transaction ended by the transfer of a coin of the realm. The question is, Was that polypharmacy or pluriglandular therapy in the rough, or humbuggery?

If there is an objection to polypharmacy, or to the shot-gun prescription methods of therapy, it would appear doubly objectionable—taking the secretions of the endocrine glands outside the body and mixing them in the outer world and using them.

THERAPIIES VS THERAPIES

And now comes the Physiotherapist. The

name is authorized and approved by the Surgeon General's office. The requirements are a graded school education and a practical knowledge of the following branches: Hydrotherapy, electrotherapy, mechanicotherapy, and massage. Hydrotherapy and massage are preferred. The aforementioned therapies are to be used on the disabled soldier in helping him to come back.

"The word *Therapeutics* is derived from the French word *Therapeutique* and is that part of medicine which treats of the discovery and application of remedies for diseases."

It is a pleasure for a has-been to look on and see that it is horse and horse between the number of disease-causing bugs and the overnight specialists to *do* the bug. Seriously, I believe in specialists, but a therapeutic specialist who has not been grounded in a medical education is liable to do more harm than good in practicing therapies. These methods are not fads for a physician to practice or to be practiced under his supervision. But to permit or encourage their practice by pseudos—that must be well guarded.

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THE FORUM.

Answers to Correspondents.

MALAR BONE, M.D., F.B.S.D.C.

SENATOR S.—We fully appreciate your interest in the medical profession and your desire to secure some legislative enactments favorable to it. However, we do not believe that a compulsory eight hour law for doctors would be quite as practical as might be supposed. You see, even if one always used forceps, it might not always be convenient for one to knock off at the end of his eight hour trick.

We hardly think it adviseable to put the practice of medicine under the control of the Utilities Commission.

Yes, it would be quite proper to put the medical profession in with hotel and boarding house keepers and make it a penitentiary offense for any person to beat a doctor bill.

DR. M. M. M.—Have just read your letter in regard to your little patient. As we understand it, the same school nurse who recommended that the child's tonsils and adenoids should be removed now insists that you must have left some adenoid or tonsillar tissue, because he does not yet seem to be bright and does not keep up with his classes.

We have heard of an occasional case of this kind. If you are sure there is no adenoid tissue left, it may possibly be that his father and mother were neglected in their childhood and did not have their adenoids and tonsils removed soon enough.

DR. P. P. P.—We have had some correspondence in regard to your charges of unprofessional conduct on the part of Dr. K. Your statement that Bill Short told you he had sciatica and you gave him some medicine for it, and that he afterward went to see Dr. K. who also prescribed for him seems to be borne out by the evidence. But the fact is that Bill lied to you. He did not have sciatica at all. Dr. K. examined him and found that he had a tuberculous hip-joint. Maybe you had better have Dr. K. examine your next case before you prescribe for it, or if you have time you might examine it yourself.

DR. B. P. S.—Yes, there really are cases of chronic arthritis that never had any catarrhal symptoms, that had had their teeth extracted and had been tonsillectomized many years before the arthritis occurred. Yes, we agree with you, there must be an occasional case of arthritis, and possibly some other diseases, for which the tonsils and teeth are not responsible.

LIEUT. R. G.—We were pleased to hear from you and to know that you are learning so many new things—especially new ways of doing things. It is really worth while to know all the ways to do things. We just heard an ex-army officer say:—"There are two ways of doing everything, the right way and the army way."

DR. F. A. C. S.—In regard to the case of sciatica in which you say you have removed some gall-stones, enucleated the tonsils and extracted the teeth, would

suggest that you do a splenectomy and, if that results in no improvement, that you give her an ounce of castor oil and a half ounce each day for a week.

DR. B. D. C.—We are unable to inform you if Dr. G. really has studied in foreign parts. It is safe to asume, however, when a doctor makes frequent occasions to tell of his studies abroad, that either his reputation or his knowledge needs bolstering.

CAPT. M. R. C.—No, we do not believe your commission will obtain for you a license to practice medicine in Kansas. Of course we understand the examination you passed in getting your commission was very rigid, especially the questions in obstetrics, but the Kansas Board of Examiners is very punctilious in this matter of determining qualifications to practice in this state. For some reason they like to ask a few questions of their own invention.

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Recommendations of President, Councillors, and Committee of the Kansas State Medical Society, to the Governor, the Senate, and the Legislature of the State of Kansas.

We, the undersigned committee of the Kansas State Medical Society, respectfully present the following recommendations to the Governor, the Senate, and the House of Representatives of Kansas:

1. Upon no other profession or class of men have the burdens and sacrifices necessitated by this war fallen so heavily as upon the medical profession. The first request of the Allies after the United States entered the war was for one thousand physicians. The first American army officer killed was Lieut. William Thomas Fitzsimmons, M.E.R.C., a graduate of the School of Medicine of the University of Kansas. We therefore believe that in recognition of these facts, the state should give consideration to the wishes and needs of the medical profession, which ultimately are for the best interests and health of the people. It is further recommended that a hospital be erected as a memorial to the first American officer killed in France—Dr. William Thomas Fitzsimmons.

2. We therefore recommend that the State build and support a hospital, or hospitals, to care for crippled and deformed children, acute surgical and medical cases, and maternity patients who may require attention. We believe that this work could be done most economically and efficiently in connection with the School of Medicine of the University of Kansas at Rosedale, which has been doing this kind of work and has the organization and staff to care for it.

3. That the war and the influenza epidemic have emphasized the necessity of the State's maintaining and supporting adequately its hospitals, its School of Medicine, a Training School for Nurses (including Public Health nurses) and its laboratory for the diagnosis of venereal diseases.

4. That the chairman of this committee has personally visited the hospital and laboratories at Rosedale and investigated the situation there; and upon his report, the committee desires to recommend that appropriations be made at this session of the legislature for the following urgently needed purposes.

a. The purchase of additional ground in Rosedale, so that a complete plant may be erected.

b. The erection of a heating plant and power house.

c. The erection of a hospital with suitable accommodations for the kinds of cases mentioned above, including crippled and deformed children; such hospital to be known as the Fitzsimmons Memorial Hospital.

Respectfully, signed
W. S. LINDSAY, President
L. F. BARNEY, Secretary
J. T. AXTELL, Chairman
Committee.

January 26, 1919.

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SOCIETY NOTES.

BOURBON COUNTY SOCIETY.

The regular meeting of the Bourbon County Medical Society was held in the Library building at Fort Scott, January 20.

After the transaction of the usual business several reports of cases were presented to the Society.

Dr. Newman reported five cases of cesarean operation with five living mothers and five living babies. In one case there was a large fibroid tumor which

came down ahead of the fetus. There was one case of eclampsia and three cases of placenta previa.

Drs. Newman, Hunter and Young reported a case of sarcoma of the kidney in a two and one-half year old baby. An exploratory operation revealed a large and adherent tumor.

Dr. Payne reported a case of intussusception of the splenic flexure of the colon in a boy of four years, following a diarrhea of three days duration, and twelve hours after the onset of symptoms the operation was done, with uneventful recovery.

Dr. Hunter reported a case of gangrenous Meckel's diverticula of the ilium with operation and recovery. Dr. Hunter also reported a case of epidemic cerebro-spinal meningitis in a young man recently discharged from the navy. Meningococci were found in the spinal fluid.

Dr. Young reported three cases of epididymitis following attacks of influenza.

At the next meeting the following program will be presented: Eclampsia, by rD. Payne; Abnormal Epithelium and Endothelium by Dr. Young; Tubercular Meningitis by Dr. Cummings.

C. F. YOUNG, Secretary.

BARTON COUNTY SOCIETY.

The Barton County Medical Society met in Great Bend on January 31, with the following members present: Drs. Kendall, Lightfoot, Button, Connett, of Great Bend; Drs. Brown, Embrey and Pennington of Hoisington.

The following officers were elected: President, H. C. Embrey, Hoisington; vice president, T. J. Brown, Hoisington; secretary-treasurer, B. S. Pennington, Hoisington; delegate, Dr. Kendall, Great Bend; censor, A. H. Connett, Great Bend.

CHEROKEE COUNTY MEDICAL SOCIETY.

The Cherokee County Medical Society met in Columbus, Kansas, February 5, 1919. Members present, Drs. Loudermilk, Shelley and McKinney of Galena, Drs. Johnson, Brookhart and Graham of Columbus, Dr. Iliff of Crestline, and Dr. Reid of Mineral.

The following officers were elected for 1919: F. L. McKinney, president; W. H. Iliff, vice president; J. Dale Graham, secretary-treasurer; R. C. Loudermilk, censor; F. L. McKinney, delegate, and H. H. Brookhart, alternate.

Program for this year will be confined to the discussion of various phases of tuberculosis. Next meeting will be in Galena, March 5.

J. DALE GRAHAM, Secretary.

First Aid Instruction in Public Schools.

A knowledge of ordinary first aid methods has been generally recognized by public health officials, medical organizations and individuals as essential because of the increasing complexities of modern industrial life.

Convincing proof of the necessity for the work of the Red Cross in first aid instruction will be found in the study of the following facts:

It has been conservatively estimated that between 90,000 and 100,000 fatal accidents occur annually in the United States, and that five times that number of accidents occur which so disable individuals that they can no longer earn their own living. Computing the earning capacity of each of this latter group at the low rate of $500 per annum gives an aggregate loss of wages of $250,000,000 annually. These figures, of course, take no account of the suffering and sadness brought into thousands of homes, which cannot be measured in terms of dollars and cents, the charges for medical care, the expense incurred by legal claims and damage suits, or the loss to employers.

According to the Interstate Commerce Commission there were 206,723 casualties on the steam railways of the United States for the year ended December 31, 1916. Of these 10,001 were deaths. These figures show an increase over the year ended December 31, 1915, of 1,371 in the number

of persons killed and 34,835 in the number injured.

The United States Bureau of Mines reports for 1916 show that out of a total of 720,971 men employed in the coal mines of the United States, 2,226 were killed, or, to put it more graphically, one life was sacrificed for every 265,000 short tons of coal produced.

Recognizing these facts, the American Red Cross has begun a movement through the various divisional offices, with the consent and co-operation of the State Superintendents of Public Schools concerned to place on the school curriculum of all high schools a course in first aid instruction.

The American Red Cross has for many years supervised the formation and teaching of classes in first aid. These classes were voluntary, and designed for adults. The greatest number of those availing themselves of this course were women who through this course became fitted to take care of most household emergencies, though minor usually in character from an overwhelming percentage of all injuries. The greatest number of severe injuries occur among men about their work. With this fact in mind the American Red Cross has endeavored to reach this type of injury, and has trained many men in factories and mills.

It is obvious that this type of teaching is unsatisfactory as it is all voluntary and depends wholly upon the enthusiasm and energies of a certain few who may see the necessity for this work and develop the class. It will also be noted that the class must be held outside of working hours, so that the class as a rule are not as receptive to instruction as would be generally believed. It has been found that a majority of the classes formed were women. The one place then where we can be sure of reaching a larger number of the male sex, and of reaching both sexes at a time when right reactions are readily set up, is in the high or preparatory school. And the ideal time for such teaching is in the second year of such schools, because having mastered the principles of first aid, the pupil has an opportunity to apply them to all the little mishaps that characterize school activities in the gymnasium, in the athletic field, in the manual training shop, about their homes and outdoor sports and games.

It is only necessary to cause you to think how many children gather about an injured person, an ambulance or an accident of some kind, to show you the natural enthusiasm which exists in children for this subject. The proposed course will be one of the most interesting of their high school work and because of the natural enthusiasm the greatest possible good can be accomplished.

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Influenza.

Clinical observations on 600 cases of influenza at the U. S. Naval Hospital, League Island, Pa., are reported by F. J. Dever and R. S. Boles (Philadelphia), and E. A. Case (Lansdowne, Pa.), League Island, Pa. (Journal A.M.A., January 25, 1919). One hundred and sixty-eight of the patients developed pneumonia, forty-eight of whom died. The epidemic continued unabated from September 12 to 17, when the crisis was reached. It seemed to spread more rapidly among men living in barracks than among those living in tents. In general the prognosis in uncomplicated cases is good as to life. Several cases of acute pulmonary tuberculosis were observed following an attack. It is probable that latent tuberculosis may be made active by the influenza infection and with existing chronic diseases such as nephritis, influenza is a serious matter. No specific treatment has been found to date. The measures used are detailed, the principal of these seeming to be rest in bed, keeping the emunctories free, acetylsalicylic acid in 5-grain doses when muscular pains are severe, large quantities of water, and frequent stimulation. Food administration was governed by the patient's appetite. The pneumonia was treated symptomatically in all cases. If Type I pneumococcus was found, the specific serum was employed. Venesection was apparently without benefit. As a sort of last straw, a stock vaccine for influenza was used in fifty cases as a preventive, and as a curative agent in fifty uncomplicated cases. As a preventive it was given every forty-eight hours, four doses to each patient, gradually increasing from 0.3 c.c. to 1 c.c.

in the third and fourth doses. In no case was there any severe reaction and none of the individuals contracted the disease. Of course, other safeguards were used, such as face masks. A few of those not injected, but wearing face masks, became victims, but the authors consider a properly fitting mask a fair protection. In the fifty uncomplicated cases treated with vaccine, none of the patients developed pneumonia, and but one pleuritis, and the disease was, with few exceptions, definitely shortened. The effects of the vaccine were the more striking the earlier the vaccine was administered. While the number of cases is too small for generalization, the use of vaccine seems safe and even desirable. The laboratory examinations reveiled B. influenzæ in pure culture from the sputum in only four cases though an organism resembling it occurred in a good percentage. Blood cultures were negative in all but one of twenty-six cases. Type determinations of the pneumonia were made by the Avery method in forty-two cases. In twelve specimens of sputum the result was unsatisfactory, the highest percentage was of Type IV. Blood counts showed a tendency to leukopenia in uncomplicated influenza, well marked in some cases. In the complicating pneumonias, leukocytosis was present in the majority. There was nothing characteristic in the differential counts. Only two necropsies were obtained, each showing consolidation of the lower part of the lung, and in one case edema of the air containing portions.

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Influenza Pneumonia.

The report on the relation of bronchopneumonia to influenza as observed at Camp Lewis, American Lake, Wash., is made by the Camp Lewis Pneumonia Unit, of which Dr. W. J. Kerr is the head at the Camp Lewis base hospital (Journal A.M.A., January 25, 1919).

This camp was completely organized with roentgen-ray and laboratory service when pneumonia first appeared. The atypical signs were early recognized, the usual signs in young adults being conspicuously absent. Frank consolidation with high temperature was the exception. Most of the patients gave a history of typical influenza symptoms. On physical examination the findings were not marked. Slightly diminished resonance was usually observed over one or both lung bases posteriorly. The breath sounds were variable, but within from forty-eight to seventy-two hours there was either a marked extension of the process, with definite though atypical signs of diffuse bronchopneumonia, or the temperature dropped to normal and the lungs showed signs of resolution. In the severer cases the temperature remained elevated, with only slight increase in pulse and respiratory rate for several days, and then fell to normal. In fatal cases the process extended over several or all lobes of both lungs. There was consistent low white pneumococcus, with a nonhemolytic streptococcus. Influenza bacilli were found only in a few cases early in the epidemic. Blood cultures were positive in 2.9 per cent, mostly pneumococcus. Post mortem examinations revealed a bronchopneumonia of varying degree, but usually extensive, characterized by scattered areas of pneumonic consolidation varying in size. The use of the roentgen ray was invaluable, as showing the consolidation, etc. They say that it appears amply demonstrated "tha t the process, whether mild or severe, is etiologically and pathologically the same; that there are all gradations from a slight involvement of the bronchioles with adjacent alveolar infiltration to an extensive involvement of entire lobes simulating lobar pneumonia; and that the cases were mild or severe, depending on the resistance of the individual or variations in the virulence of the organisms, rather than the accepted idea that the pneumonia complicated one case and not another." A later and fuller report with laboratory and neurologic data is promised at an early date.

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Mitral Regurgitation.

Mitral regurgitation which has been assumed to be the easiest of all valvular diseases to recognize is, according to the experience of M. A. Rothschild, New York (Journal A.M.A., February 1, 1919), the most difficult. The presence of a systolic murmur at the apex transmitted to the axilla has had its importance overvalued. The number of adventitious sounds heard in the cardiac examination in examining recruits is surprising, and deviations from the normal are almost the rule. Systolic, apical or basic murmurs are heard in at least 50 per cent of all men examined, especially immediately after exercise. Mitral regurgitation may be estimated the most prominent or the least so according to the interpretation of the examiner, and certain criteria should be established to standardize the work. Rothschild gives the observations at the camp to which he is attached, and says they have used these

criteria for the diagnosis of mitral valvular disease: (1) cardiac hypertrophy; (2) a systolic, apical murmur, and (3) a definite history of one or more attacks of acute articular rheumatism (not growing pains or tonsillitis). In these criteria such physical signs as an accentuated or split pulmonic second sound were purposely omitted as of no value, and abdominal pulsation of the type corresponding to the contractions of the right ventricle is also of no differential value. The character and irregularities of the pulse are of even less significance and the intensity of the propagation of the murmur is at best of doubtful significance, though it is extremely difficult to absolutely disregard it. In Rothschild's opinion it signifies more in a slow acting heart. The differential diagnosis of mitral regurgitation must, he says, be made from the following conditions: (1) functional cardiovascular disorder, disordered action of the heart, "irritable heart of soldiers," neurocirculatory asthenia; (2) accidental systolic, apical murmurs. The differential diagnosis from functional cardiovascular disorders is not very difficult. The absence of cardiac hypertrophy plus the other physical signs other than cardiac manifestations make it fairly simple. The intensity and propagation of the murmurs may not differ from those of true valvulitis, but the other symptoms and signs of neurocirculatory asthenia are absent in cases of true organic mitral disease. One may complicate the other, however, and make difficulty. Excluding the neurocirculatory asthenia group we have cases with no hypertrophy, but with the systolic, apical murmurs, and these give the most difficulty. It is not a matter of great surprise, however, that such murmurs occur, but that they do not occur more frequently. The effect of exercise on the patient must be carefully observed, and any peculiar look of anxiety and quickening of respiration are all important signs. There are two classes of these cases: (1) those without symptoms, and (2) those with symptoms. Those without symptoms are fit for full military service, but the class with symptoms is a difficult one to label and they are probably early cases of organic valvular disease. Electrocardiographic evidence of left ventricular predominance or the diagraphic evidence of the so-called mitral configuration are of service in diagnosing these cases. Rothschild follows Lewis in disregarding the systolic murmur per se. The soldier is disqualified because of cardiac hypertrophy or because of poor exercise response. His service is limited because of a definite rheumatic fever.

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Incidence of Pneumonia.

While there is little doubt, says David Greenberg, New Haven, Conn. (Journal A. M. A., January 25, 1919), that meteorological conditions have a distinct influence on the occurrence of pneumonia, and although much investigation has been done along this line, the published findings have been varying and inconsistent. He refers to a number of these showing this fact. While making an investigation of death rates from pneumonia in the North Atlantic States he noted that they were markedly higher than those from the Pacific Coast, and was induced from this to attempt to find out whether the common notion that this is due to moist conditions and low temperature is correct. Methods followed by other observers were used by him without satisfactory results. He was fortunate, then, in finding a new method of plotting his records, devised by Prof. Huntington of Yale, depending on the use of what he calls the climograph. He describes the method and its use. With the exception of one city, the deaths studied were all of lobar pneumonia, excluding bronchopneumonia cases, which are so often only sequels or complications of many other diseases. The charts with the paper show the relation of pneumonia to relative humidity and temperature variability as plotted in the curves of the climograph, and also in relation to wind. The curves of other diseases, diarrhea and enteritis among children, which occur under conditions of high temperature were also plotted out as a check to the method, and as an additional check, cancer was also studied as a disease that shows no seasonal preference. He sums up as follows: "In studying the death rate of lobar pneumonia in its relation to meteorological conditions, it has been found that: 1. Temperature per se is the most important controlling factor. 2. A low relative humidity is conducive to a high death rate, and a high relative humidity to a low death rate. 3. Increases in the death rate correspond to increasing temperature variations." Eleven charts and three tables with corresponding legends accompany the article.

Rational Drug Therapy.

Jacob Diner, New York (Journal A.M. A., January 25, 1919), says that the physician should always bear in mind that drugs do not cure but that they may be made valuable adjuncts in restoring normal action in disease. The taking of medicine should not be made a punishment, and it is the duty of the prescriber to administer the drug in as palatable a form as possible. It often happens that the desired physiologic action fails to appear because of improper administration or selection of drugs. Therefore, Diner takes up certain groups of remedies, pointing out how the proper selection can be made. First soporifics, of which the chloral group depresses the central nervous system even to eventually paralyzing it. It has no special specific effect on pain, but diminishes the reflexes of the spinal cord, those of the medulla oblongata last. Therefore, it does not often affect the respiratory center to any extent. In a case of insomnia due to pain it is contraindicated while it is eminently the remedy of choice in insomnia due to nervous excitation, especially of spinal or reflex origin. Being irritating to the skin and mocous membranes it should be administered in high dilution and preferably with some bland substance. Opium and its derivatives, on the other hand, have a marked selective action on pain and respiration, reducing both in doses too small to affect general consciousness. In administering them the possibility of habit producing must always be considered. Bromids act directly as depressants on the central nervous system, but they are slower in action and rather rapidly eliminated, especially in the presence of chlorids, and are irritating to the mucous membrane in concentrated solution. Frequent small doses will bring about more physiologic response than one large dose and when the concentration of bromids is to be maintained in the blood nd tissues, that patient should be kept on a salt-free diet. As regards stimulants. trychnin has selective action on the spinal cord. The caffein group acts both on the central nervous system and on the kidneys ut the theobromin group has little effect on the nervous system. In lobar pneumonia with increased pulse and respiration and mental confusion or delirium, caffein is contraindicated, as in the recent epidemic, and theobromin sodium silicylate or some saline diuretic would be better. On the other hand, caffein would be of use in case of mental or psychic depression and particularly in depression incident to poisoning. Atropin is also contraindicated in the pneumonia cases excepting when it is desired to check secretion. Camphor would also not be indicated because in physiologic doses its action on the heart and circulation is relatively small. The digitalis group, however, is eminently satisfactory in these conditions. Digitalis is relatively slow in its action and also more permanent while strophanthus is indicated for emergency cardiac stimulation. In giving magnesium sulphate few physicians remember that its rapidity of action is increased by its dilution and it should be given with a large amount of water if quick action is desired. Carbohydrate digestion, initiated in the mouth, is continued for some time in the cardiac end of the stomach until the gastric secretion reaches a certain degree of acidity, about thirty minutes after food reaches the stomach. Hence the impropriety of administering pepsin and hydrochloric acid immediately after eating. Pancreatin belongs to the proteins and it should be administered in a form in which it will not readily be acted on by the gastric secretions, and should be used toward the end of the normal gastric digestion two or three hours after eating. Another thing to be remembered is connection with enzymes is the fact that alcohol inhibits their action and giving them in the form of elixirs or wines seems illogical.

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Atropin and Antianaphylaxis.

J. H. Stokes, Rochester, Minn. (Journal A.M.A., January 25, 1919), takes up the subject of the acute nitritoid or anaphylactic reactions to the intravenous injection of arsphenamin which have become more or less familiar to the medical profession as following the use of certain brands of the drug. One of the essential facts, he says, in the production of anaphylactic shock may now be regarded as change in the dispersion of the colloids of the blood serum. Friedberger and Tsuneoka have found that the injection of powder, such as kaolin, into the blood stream causes anaphylactic shock, and MacKee and others observed in 1912 that the intravenous injection of arsphenamin in acid solution produced a precipitate and reaction in the patient proportional to the concentration of the solution and the rate of injection, that is, the rate of formation of the precipitate in the blood stream. Reasoning by analogy the closely similar picture of nitritoid crisis may be anaphylactic shock caused by the formation of

precipitates in the blood. This reasoning has been supported by the recent work of Danysz and Berman. As to the cause of the arsphenamin reaction, it cannot be regarded as completely settled, as there remains to be explained the large body of observation on variations in the toxicity of arsphenamin itself. In his own experience Stokes has found that while using some German preparations there was scarcely a day passed without some unpleasant reactions, while with 7,000 subsequent injections with other preparations they have hardly been able to carry on the work necessary in writing this article on account of the rarity of such reactions. Work of this kind can be undertaken only in patients with special idiosyncrasy to arsphenamin and such cases are not so common. The report of one case thus observed is given in the article. It was surrounded with all the precautions that could be devised and Stokes believes that it was a reliable test. Atropin was used to inhibit the reaction and with such success by the injection of one-fiftieth of a grain as to support his views of the condition and its remedy. An interesting point in the observation was suggested by the non-disappearance of the delayed toxic erythema. Since its successful employment in the case reported, they have used the induction of antianaphylaxis against acute arsphenamin. Stokes thinks the subject is worthy of further study.

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Irritable Bladder in Women.

C. A. L. Reed, Cincinnati (Journal A.M. A., February 1, 1919), describes irritable bladder in women as being a condition in which severe pain in urinating and frequent desire to urinate make life miserable fo rthe patient, and trying to the physician. The underlying condition is abnormal sensibility of the lining of the bladder itself, which may be caused by conditions either external or internal. Those working from the outside usually act by pressure, such as in cases of pregnancy, uterine displacements or tumors. Among the conditions arising within the bladder and that have a causative bearing on the symptoms acute infection, generally gonorrheal, tuberculous infection, local growths, benign or malignant; calculi; diverticula, etc., may be named. In a certain proportion of cases, circumscribed ulceration, the so-called Fenwick ulcer, near the outlet has been found the essential condition. Another form of ulcer is specially mentioned, which might be designated as the Hunner ulcer, first described by Dr. H. L. Hunner; or, better, as the punctate ulcer of the bladder, as being more descriptive. Importance of differential diagnosis in these cases from early thorough examination is emphasized, and three cases are reported. The symptoms are those of the irritable bladder first mentioned, and the urinalysis findings are usually negative. Reed reproduces the description given by Hunner as he has found it most accurate and helpful. He calls attention to a glazed dead white appearance of a portion of the bladder mucosa as seen through the cystoscope. Sometimes there are small congested areas in the immediate neighborhood of this, which sometimes ooze blood and are often surrounded by an area of edema. In certain of these cases, Reed has observed a granular appearance suggestive of tuberculosis, but which we now know, from Hunner's research, is due to the development of minute cysts with mucous lining. The diagnosis of punctate ulcer is based on the history of the case, the existing symptoms and the urinalysis and cystoscopic findings. The cases have not yet been fully determined, but the possibility of focal infection is admitted, though longer observation is required. The pathology, so far as developed, seems to be that of a chronic interstitial nephritis, more or less involving the bladder wall. The treatment seems to be reduced to surgery, the complete excision of the ulcer-bearing area. The original method devised by Hunner was extraperitoneal, and was employed in the first of Reed's cases, while his other two were treated by a transperitoneal operation.

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Hemolytic Streptococci.

A preliminary report of cultural and serologic studies of hemolytic streptococci is made public by C. D. Hamilton (Canton, Ohio), and L. C. Havens (Cambridge, Mass)., Camp Wadsworth, Spartanburg, S. C. (Journal A.M.A., January 25, 1919). Its purpose is to show that the hemolytic streptococci can be grouped, according to their agglutination reactions, into more or less definite types, and that a protective serum for each group is possible of production. The cultural and serologic characteristics of strains from healthy carriers, acute bronchitis and bronchopneumonia sputums and necropsies have been studied by them. Many of the strains differ in appearance in blood agar colonies, but the sugar reactions are generally similar.

Charts showing the relation between the different groups are given for 110 strains. In 48 per cent of these it was found that they were agglutinated in high dilution (1:5,000), and there were three other groups varying according to their degree of agglutinability. The bactericidal effects of the groups were tested, and they were found specific in each. The method of making the tests is described, and protection tests on mice are also reported. These groups were obtained by the serologic reactions of the different strains. Their cultural characteristics have no relation to their immunologic grouping, but the serums of immunized rabbits with strains of hemolytic streptococcus were found to protect mice against an infection with a homologous strain, but not those serologically different. Certain master strains can be isolated by their serologic reactions, and a therapeutic method against infection by hemolytic streptococci is suggested as possible.

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How the H. K. Mulford Company Prepared to Meet the Influenza Pandemic of 1918.

Realizing that the epidemic of influenza raging in Europe was likely to invade the United States, the H. K. Mulford Company early prepared to meet the demand for serums and vaccines required for the prevention and treatment of the disease and its complications.

The disease was known to be due to a mixed infection in which the influenza bacillus (Pfeiffer's bacillus,) pneumococcus, streptococcus, micrococcus catarrhalis and the staphylococcus were the invading causative micro-organisms.

Early in September the facilities of the Glenolden Laboratories were offered to the hospitals of Philadelphia to aid in the investigation of the cause of influenza and particularly the pneumonia complications. Material was sent from the Philadelphia Hospital, U. S. Naval Hospital and other institutions for study. Fifteen strains of the influenza bacillus and virulent strains of streptococcic hemolyticus taken from the material sent in from the hospitals were added to the influenza bacterins to insure their greater specificity.

The pneumonias following the attacks were known to be due to the pneumococcus and streptococcus, consequently antipneumococcic and antistreptococcic serums were prepared in large quantities to meet the requirements.

For several years previous, extensive studies had been made by Dr. Parker Hitchens, former Director of the Laboratories, to determine the character of the infections responsible for influenza, acute bronchitis and common colds, which year after year regularly occur in the United States. The microorganisms causing these diseases in former epidemics of influenza are the same as those responsible for the pandemic of influenza occurring in 1889-90, and also the present pandemic.

These bacterins, known respectively as Influenza Serobacterin Mixed and Influenza Bacterin Mixed have attained high reputation both as prophylactic and therapeutic agents.

It is too early to supply exhaustive statistics, but enough evidence has been accumulated to fully justify the employment of Influenza Serobacterin or Influenza Bacterin Mixed, for the prevention and treatment of Influenza. It has been amply demonstrated that patients immunized by the bacterins rarely acquire Influenza and those who take the disease are practically insured against complications of the pneumonias which have proved so fatal during the recent epidemic.

Fact and Opinion on the Influenza Epidemic.

At the recent meeting of the American Public Health Association the discussions relative to the etiology of the present epidemic resolved themselves into the beleif that the bacillus of influenza is not the primary etiologic factor and that the actual cause is as yet unknown. In the argumentation for and against the face mask as a means of preventing the spreading of the disease, sight was lost of the fact that definite evidence has been presented to show that the wearing of a mask prevents the diffusion of pathogenic organisms of which we have definite knowledge. A paper was presented which indicated to the satisfaction of most listeners that a significant factor in the spread of the epidemic in army camps was the inadequate washing of mess kits (Jour. A. M. A., Dec. 21, 1918, p. 2074).

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The Goldwater Ordinance.

In 1914 the Department of Health of the City of New York revised the Sanitary Code so as to require that no "patent medicine" should be sold in the city of New

York unless the name of the potent ingredients are declared. The ordinance was bitterly fought by the "patent medicine" interests, the fight being led by E. Fougera and Co., E. N. Crittenton Co., and H. Planten and Son. Now the Appelate Court of New York has decided that the ordinance is void, but has upheld the principle that a disclosure of the formula of medicines may be required. The underlying principle of the ordinance was the right on the part of the city to require disclosure of ingredients, and that right the Appelate Court unholds (Jour. A. M. A., Dec. 21, 1918, p. 2093).

New and Nonofficial Remedies.

During December the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Non-proprietary articles: Benzyl Benzoate; Emetine Bismuth Iodide.

Abbott Laboratories: Emetine Bismuth Iodide—Abbott.

Hynson, Westcott and Dunning: Benzyl Benzoate—H. W. & D.; Solution of Benzyl Benzoate, Miscible—H. W. & D.

Merck & Company: Diethylbarbituric Acid — Merck; Diethylbarbituric Acid — Merck tablets, 5 grains; Sodium Diethylbarbituric Acid—Merck; Sodium Diethylbarbituric Acid—Merck tablets, 5 grains.

H. K. Mulford Company: Bismuth Emetine Iodide—Mulford; Cachets Bismuth Emetine Iodide—Mulford, 5 grains.

E. R. Squibb & Sons: Chlorinated Eucalyptol—Squibb.

Takamine Laboratory: Arsaminol—0.1 gm. tubes, 0.2 gm. tubes, 0.3 gm. tubes, 0.4 gm. tubes, 0.5 gm. tubes, and 0.6 gm. tubes.

Sterilizing the Nasopharynx.

Evidence is accumulating of the value of Dakin's antiseptics for sterilizing the throat and nose of persons exposed to or suffering from Spanish influenza and other diseases transmitted by the secretions of the upper respiratory tract. The simplest and most convient of these remedies to use is Chlorazene, which is available in tablet form for the preparation of aqueous solutions, which may be used for spraying or gargling. Such solutions are convenient, can be made up by anyone with ordinary intelligence and are exceedingly efficient.

When possible the aqueous solution should be supplemented by the oil spray of Dichloramine-T dissolved in Chlorcosane, a 1 to2 percent solution being employed for this purpose. This should be applied at least twice daily, where possible by the physician himself or by the nurse. The use of Dichloramine-T assures prolonged contact with the mucous membrane fo an exceedingly powerful germicide, which can be used wthout danger to the patient.

The extensive experimental work conducted by The Abbott Laboratories, preliminary to placing the Dakin products at the disposal of American physicians, seems to be justified by the splendid results which are being obtained.

Emetin Bismuth Iodid.

The Council on Pharmacy and Chemistry reports that because of the apparently good results obtained with it, emetin bismuth iodid has been accepted for New and Nonofficial Remedies. Emetin bismuth iodid is responsible in water and dilute acids, but is decomposed by alkalis, and thus should pass the stomach unchanged but exert its action in the intestines. Those who have reported on the use of the drug in amebic dysentery report that the disappearance of ameba from stools was generally complete and apparently permanent even in chronic cases of carriers and in cases where the hypodermic administration of emetin has failed. Purging and vomiting, however, are not entirely avoided. The drug is usually given in a single dose of three grains at the midday meal for twelve days (Jour. A.M.A., Dec. 14, 1918, p. 2013).

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Influenza.

J. W. Nezum, Isadore Pilot, F. H. Stangl and B. E. Bonar, Chicago (Journal A. M. A., November 9, 1918), report on the epidemic of influenza observed at the Cook County Hospital. From September 23 to October 29, more than 2,000 patients were admitted to the wards, and of these, 642 died, a mortality of 31 per cent, the age period of highest mortality being between 25 and 30 years. At the time of writing the mortality seems to be on the decline, but while it lasted the epidemic seriously crippled the medical and, more especially, the nursing staff. More than fifty of the nurses and twelve of the physicians contracted the disease, and among them three deaths occurred. The influenza bacillus was isolated in only 8.7 per cent of the total cases and in only one instance did it

appear to have caused the pneumonia. It was met with more frequently among 125 soldiers who were admitted, than among the civilian patients in whom it was isolated only exceptionally. Pneumococci were the predominating organisms in the sputum, throat and lung cultures, both during life and at necropsy. The possibility of a filtrable virus suggested an experimental study. Washings from the nose and throat of typical cases were filtered through Mandler and Berkefeld filters of medium porosity and the cultures of the clear filtrates inoculated into the anterior nares of volunteers and into monkeys, without results. Of the pneumococcal types, which were present altogether in 72.6 per cent, Type I was the least frequent, and Type IV the most common, Type II being second. Of eighty-six pregnant women admitted to the maternity ward with influenza or pneumonia, twenty-one died shortly after miscarriage, and twenty before this could occur, the mortality being, altogether, 45.5 per cent.

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Chloroform Analgesia.

Torald Sollman, Cleveland (Journal A. M. A., August 24, 1918), speaks of the desirability of a suitable, prompt, brief, safe and, if possible, pleasant method of analgesia, where full anesthesia is not actually necessary. He recommends the use of chloroform, using a fixed dose for simply relieving pain and not causing unconsciousness. The chief problem was obtaining a method of administration for this purpose. He made experiments on man, accurately measuring the amount that could be safely used. Practically ideal results were secured by the use of 5 c.c. of chloroform taken up on a piece of cotton about the size of a lemon or larger and held directly to the nostrils with the left hand of the subject, who then breathed deeply and quietly, occasionally testing the sensation. On several occasions the subject passed through the events of the ideal induction of anesthesia, the floating sensation, prickling, warmth confusion, drowsiness, and in one case probably actual unconsciousness. In all others the subject felt almost asleep, but could answer questions coherently except during the maximal effect. The analgesia reaches its maximum in four or five minutes, and by this time the chloroform has evaporated, but the tolerance of pain continues to a great extent. This method was more effective for the special purpose than any other anesthetic, including the Hewitt chloroform-ether mixture and the Billroth A. C. E. mixture. The fixed dose should be rigidly followed or rather not exceeded. No attempt should be made to produce anesthesia by this method.

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Notice.

The Annual Report of the Surgeon General, U. S. Army, for 1918, (including statistics for the calander year 1917 and activities for the fiscal year ending June 30, 1918), has just been issued from the Government Printing Office. It contains a comparative study of the health of the Army, 1820-1917; an account of the health of the mobilization camps and of the Army by countries; a consideration (70 pages in extent) of the principle epidemics in the camps; and a discussion of fractures and operations. Nearly 200 pages are devoted to the special activities of the medical department:—with the American Expeditionary Forces, and in the divisions of sanitation, hospitals, supplies, laboratories and infectious diseases, internal medicine, general surgery, orthopedics, head surgery, neurology and psychiatry, psychology, food and the Dental and Veterinary corps. In addition to the usual tables of illness, discharge for disability and death, there are given tables of battle wounds and operations; of complications of various diseases and of case mortality. The text is illustrated by 73 charts. Altogether the report is a study of health and morbidity in an Army of over 1,500,000 men, for the most part yet in the period of training. It should be of interest to epidemiologists, vital statisticians and army medical men.

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The Quality of the Market Supply of Procaine.

The local anesthetic procaine (first introduced as novocaine by the Farbwerke vorm. Meister, Lucius & Bruening, Hoechst A.M. Germany) is now manufactured by the Abbott Laboratories, the H. A. Metz Laboratories and the Rector Chemical Company. The products of these three firms were accepted for New and Non-official Remedies after the A.M.A. Chemical Laboratory had reported specimens chemically satisfactory and the Cornell Pharmacologic Laboratory had determined that they were not unduly toxic. In accordance with its announcement to report from time to time on the quality of American made synthetics, the Council on Pharmacy and Chemistry now publishes a re-

port on the quality of the procaine now supplied to physicians. The examination demonstrates that the three brands were of a satisfactory quality. Some of the specimens of procaine-Abbott and procaine-Rector had a yellow or light brown tinge (a specimen of procaine-Metz "novocaine" recently sent the Council also had a slight yellow tinge), but so far as the evidence goes there is nothing to indicate that the discolored specimens are seriously impure. The Council considers the use of the discolored product justified in the present emergency, but urges that for the future a colorless preparation be supplied. (Jour. A.M.A., Jan. 11, 1919, p. 136.)

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Anaphylactic Shock.

J. H. Lewis, Chicago (Journal A.M.A., February 1, 1919), has studied the subject of prevention of anaphylactic shock and reviews the literature that has appeared and the methods proposed. Friedberger and Mita have suggested the very slow administration of serum rather than the division of dose, and this suggestion is followed by Lewis in animal experiments. In the practice of serum treatment of pneumonia, certain questions arise. In the first place the concentration of antipneumonic serum has not been as successfully done as for diphtheria serum, and the use of large volumes of serum injected directly into the veins has been advised. Both of these facts are responsible for many unfortunate reactions reported. Lewis gives the results of experiments on dogs, rabbits and guinea-pigs. The results in the two former animals show that acute anaphylactic shock can be prevented by giving otherwise fatal doses to sensitized animals very slowly into the veins. The Woodyatt pump he finds excellent for the purpose, but the exact quantitative relations must be worked out experimentally. At present, it can only be said that the injections should be made as slowly and the dilutions as high as necessary under given conditions.

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"Aspirin" a Common Name.

The claim of the Bayer Company to the exclusive right of applying the name "aspirin" to acetylsalicylic acid will be definitely set aside if the recommendation of the examiner of interferences of the United States patent office is upheld. The stand taken by the patent office is in line with the established principle that no one can have a monopoly in the name of anything. Since "aspirin" has become the common name for acetylsalicylic acid, no one firm can have an exclusive right to it. (Jour. A.M.A., Jan. 11, 1919, p. 119.)

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Coca-Cola.

Analyses made by federal chemists showed it to contain from 0.92 to 1.30 grains of caffein to the fluid ounce. It would seem that in the interest of the public health the indiscriminate sale to children and adults of an alkaloid like caffein in the enticing form of a "soft drink" is to be deprecated. (Jour. A.M.A., Jan. 25, 1919, p. 299.)

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